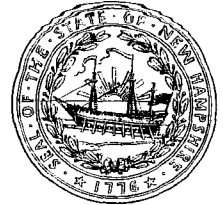




The State of New Hampshire  
**Department of Environmental Services**

Michael P. Nolin  
Commissioner



August 26, 2005

**CERTIFIED MAIL**  
**7000 1670 0001 2915 7264**  
**RETURN RECEIPT REQUESTED**

**LETTER OF DEFICIENCY**  
**No. WMD 05-023**

Luminescent Systems, Inc.  
4 Lucent Drive  
Lebanon, NH 03766-1439

Attn: Peter Gundermann, President

**Re: Luminescent Systems, Inc.**  
**Lebanon, NH**  
**EPA ID # NHD510017304**

Dear Mr. Gundermann:

On August 11, 2005, the Department of Environmental Services, Waste Management Division ("DES") conducted an inspection of Luminescent Systems, Inc. ("LSI") in Lebanon, NH. The purpose of the inspection was to determine LSI's compliance status relative to RSA Ch. 147-A and the New Hampshire Hazardous Waste Rules, Env-Wm 100-1100 ("Rules").

As a result of the inspection, the following deficiencies in LSI's hazardous waste management program were documented:

1. Env-Wm 502.01 – Hazardous Waste Determination

At the time of the inspection, no formal waste determinations had been conducted on the waste spray paint booth filters ("Filters") and the waste disposable contaminated wipers ("Wipers"). At the time of the inspection, LSI informed DES that the Filters and the Wipers are disposed of as a solid waste.

Env-Wm 502.01 requires that all generators of waste determine if their waste is a hazardous waste. Waste determined to be hazardous must be handled pursuant to the requirements of the Rules.

- (a) Waste Spray Paint Booth Filters: DES requests that LSI determine whether the Filters are a hazardous waste by either applying knowledge of the hazardous properties of the Filters or by testing a representative sample of the Filters. The analyses should include, at a minimum, testing to detect the characteristic of toxicity, by using the Toxicity Characteristic Leaching Procedure (TCLP) for organics and RCRA metals as described in Env-Wm 403.06. In addition to testing for the toxicity

characteristic, the Filters should be tested for the characteristic of ignitability, as defined in Env-Wm 403.03, using Method 1030, Ignitability of a Solid, found in Test Methods for Evaluating Solid Wastes, SW-846.

LSI will need to provide to DES the results of the hazardous waste determination, along with any other supporting data, such as Material Safety Data Sheets (MSDS) and/or chemical analyses.

- (b) Waste Disposable Contaminated Wipers: DES requests that LSI determine whether the Wipers are a hazardous waste by either applying knowledge of the hazardous properties of the waste Wipers or by testing a representative sample of the waste Wipers. The analyses should include, at a minimum, testing to detect the characteristic of toxicity, by using the Toxicity Characteristic Leaching Procedure (TCLP) for organics and RCRA metals as described in Env-Wm 403.06. In addition to testing for the toxicity characteristic, the Wipers should be tested for the characteristic of ignitability, as defined in Env-Wm 403.03, using Method 1030, Ignitability of a Solid, found in Test Methods for Evaluating Solid Wastes, SW-846.

LSI will need to provide to DES the results of the hazardous waste determination, along with any other supporting data, such as Material Safety Data Sheets (MSDS) and/or chemical analyses.

Alternatively, LSI may be able to manage the Wipers as "contaminated cloth wipers for laundering." DES defines "contaminated wipers" as rags, shop towels and wipers which have been used, contaminated with minor amounts of hazardous waste constituents such as solvents or oils, and are intended to be laundered before reuse. Please reference the enclosed DES Environmental Fact Sheet #WMD-HW-6, "Contaminated Cloth Wipers for Laundering," to determine if this DES policy is applicable to your situation.

Please be advised that materials that are mixed with a listed hazardous waste are also regulated as hazardous wastes, as specified in Env-Wm 404.01(a)(1). Therefore, if the Wipers or the Filters are used in conjunction with an F-listed solvent (e.g., methyl ethyl ketone, acetone) the wiper is a hazardous waste. Materials that are mixed with characteristic hazardous wastes (e.g., ignitable, corrosive) are only hazardous if they continue to exhibit the characteristic after mixing has occurred, as specified in Env-Wm 404.01(a)(2).

2. Env-Wm 504.02(d) and Env-Wm 504.02(b)(7)- Generator Notification

At the time of inspection, according to DES notification records, LSI had notified as a Full Quantity Generator (>1000 kilograms/ month). However, a review of waste disposal records indicates that LSI's generator status may be that of a Full Quantity Generator (100 - 1000 kilograms/ month).

Env-Wm 504.02(d) requires that a generator shall notify DES verbally or in writing of any changes to the information required in Env-Wm 504.02(b), including generator status, within 30 days of the effective date of the change.

DES requests that LSI review its facility hazardous waste generation rates in order to determine its proper generator status; and if necessary, complete and submit a subsequent notification form that accurately reflects the change in generator status.

3. Env-Wm 509.02(a)(1) - Inspection Requirements

At the time of the inspection, LSI had not documented 1 out of the required 156 weekly inspections of the main hazardous waste storage area during the last three years.

Env-Wm 509.02(a)(1), which references 40 CFR 265.15, General Inspection Requirements, requires full quantity generators to conduct and document inspections of the facility, including the hazardous waste storage area(s). Per 40 CFR 265.15(d), the inspection records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions taken.

DES requested that LSI ensure that weekly inspections of the hazardous waste storage area are routinely recorded on the inspection checklist.

Maintaining compliance with the hazardous waste rules is a challenging undertaking, and despite a minor area noted for improvement, LSI has demonstrated a high level of achievement in ensuring that the hazardous waste storage area is inspected weekly. It is obvious that LSI takes its obligation to inspect the hazardous waste storage area very seriously, and is commended for its performance.

*At the time of the inspection, DES personnel verified that inspections are currently being recorded in an inspection checklist. No further action is required.*

4. Env-Wm 509.02(a)(2) – Personnel Training

A review of LSI's personnel training program revealed the following deficiencies:

- (a) Frank Johns, alternate emergency coordinator, had not received annual hazardous waste training reviews in 2002, 2003, and 2004.
- (b) A review of LSI's personnel training records revealed that the training records failed to document a training program which includes a list of hazardous waste job titles, job descriptions, descriptions of introductory and continuing training to be provided for each position, and names of employees filling each position.

Env-Wm 509.02(a)(2), which references 40 CFR 265.16, Personnel Training, requires full quantity generators to maintain a personnel training program. This includes, but is not limited to, ensuring that initial training and annual reviews are conducted for personnel handling hazardous waste, and requires full quantity generators to maintain specific documents and records related to personnel training.

DES requests that LSI conduct and document hazardous waste training and annual reviews for all employees who have hazardous waste responsibilities, including the emergency

coordinators. DES also requests that LSI maintain a written personnel training program which provides a description of the type and amount of introductory and continuing training that is given to persons filling each hazardous waste related position, and documentation of hazardous waste job titles, job descriptions, and names of employees filling each position.

5. Env-Wm 509.02(a)(5) – Contingency Plan

A review of LSI's contingency plan revealed deficiencies regarding the following:

- (a) Home addresses of the emergency coordinators;
- (b) Copies of the plan had not been submitted to the local authorities (police, fire, hospitals, contractors, and state and local emergency response teams); and
- (c) Provisions that the emergency coordinator will immediately notify the division at (603) 271-3899 (during working hours 8:00 am- 4:00 pm).

Env-Wm 509.02(a)(5), which references 40 CFR 265, Subpart D, requires full quantity generators to maintain a complete contingency plan at the site.

DES requests that LSI revise and update its contingency plan to correct any deficiencies as identified in the enclosed Contingency Plan Module and submit a copy of the plan to the local authorities.

6. Env-Wm 509.02(b) – Emergency Posting

At the time of the inspection, the emergency posting at the nearest telephone to the main hazardous waste storage area failed to document the location of fire extinguishers, spill control material, and alarms.

Env-Wm 509.02(b) requires that full quantity generators post a list of the steps to take if an emergency occurs and the following emergency numbers and information at the nearest telephone to the hazardous waste storage area:

- (a) The emergency coordinators (home and office);
- (b) The fire department, police department, and State of New Hampshire and local emergency response teams that may be called upon to provide emergency services, unless the facility has a 24-hour response team designated to provide emergency services whose number is posted; and
- (c) The location of fire extinguishers and spill control material, and if present, fire and internal emergency alarms.

DES requests that LSI post the required information at the nearest telephone to the main hazardous waste storage area.

7. Env-Wm 807.06(b)(4) - Standards for Generators of Used Oil Being Recycled

At the time of the inspection, LSI was storing one (1) container of used oil, destined for recycling, in the maintenance area which was not labeled with the words "Used Oil for Recycle."

Env-Wm 807.06(b)(4) requires that generators of used oil destined for recycling label their containers and tanks with the words "Used Oil for Recycle" at all times during accumulation and storage.

DES requests that LSI label all containers of used oil destined for recycle with the words "Used Oil for Recycle" at all times during accumulation and storage.

8. Env-Wm 807.06(b)(7) - Standards for Generators of Used Oil Being Recycled

At the time of inspection, DES confirmed that a used oil determination had not been conducted for LSI's hydraulic oil waste stream.

Env-Wm 807.06(b)(7) requires generators to conduct an initial used oil determination by analyzing it for all of the parameters specified in Env-Wm 807.02 and Env-Wm 807.03 (exclusive of PCB's if no source of PCB's is present).

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DES requests that LSI conduct an initial used oil determination for the hydraulic oil waste stream for the parameters outlined in Env-Wm 807.02 and Env-Wm 807.03. These parameters include arsenic, cadmium, chromium, lead, flash point, and total halogens. LSI should provide the results of the used oil determination to DES. Enclosed please find a summary of the used oil regulations and a list of analytical laboratories that perform the required testing.

9. Env-Wm 1102.03(c) – Universal Waste Lamp Management

At the time of the inspection, four (4) containers of universal waste lamps were not closed. See the attached Container Inventory ("Inventory").

Env-Wm 1102.03(c)(1) requires universal waste containers to be closed, except when universal waste is being added to or removed from the container.

DES requests LSI to ensure that all containers of universal waste lamps are closed, except when universal waste is being added to or removed from the container.

10. Env-Wm 1102.03, Env-Wm 1109.04, and Env-Wm 1111.04 - Universal Waste Management, Labeling Requirement

At the time of the inspection, one (1) container of universal waste batteries was not marked with the words "Universal Waste – Battery," "Waste Battery," or "Used Battery." See the attached Inventory.

Env-Wm 1102.03 which references Env-Wm 1109.04, requires universal waste handlers of batteries to ensure all batteries or containers holding universal waste batteries to be clearly labeled or marked with any of the following: "Universal Waste – Battery(ies)," "Waste Battery(ies)," or "Used Battery(ies)."

In addition to the universal waste battery, one (1) container of universal waste mercury containing devices was not marked with the words "Universal Waste - Mercury-Containing Device(s)," "Waste Mercury-Containing Device(s)," or "Used Mercury-Containing Device(s)." See the attached Inventory.

Env-Wm 1102.03 which references Env-Wm 1111.04, requires universal waste handlers of mercury containing devices to ensure each universal waste mercury containing device or container(s) holding universal waste mercury containing devices is clearly labeled or marked with any of the following: "Universal Waste - Mercury-Containing Device(s)," "Waste Mercury-Containing Device(s)," or "Used Mercury-Containing Device(s)."

DES requests that LSI clearly label or mark its universal waste batteries and universal waste mercury containing devices according to the requirements of Env-Wm 1109.04 and Env-Wm 1111.04, respectively.

11. Env-Wm 1102.04 – Universal Waste Management

At the time of the inspection, LSI personnel indicated that LSI generates universal waste lamps, batteries, and mercury containing devices. DES inspectors requested documentation of disposal of the universal waste lamps, batteries, and mercury containing devices, or documentation as to how long the universal wastes are accumulated on site before being transported to another handler or destination facility. Documentation reviewed by DES personnel at the time of the inspection indicates that universal wastes generated by LSI were last shipped by LSI on June 3, 2003.

Env-Wm 1102.04 requires that a universal waste handler shall either: 1) not accumulate universal waste for longer than one year from the date the universal waste becomes a waste or is received from another handler; and 2) demonstrate the length of time that the waste has been accumulated from the date it becomes a waste by using the options specified in Env-Wm 1102.04(a)(2)(a-f); or 3) accumulate universal waste in excess of one year from the date the universal waste becomes as waste by complying with the provisions of Env-Wm 1102.04(b)(1-2).

DES requests that LSI establish a method of documenting the length of time that universal waste lamps, batteries, and mercury containing devices have been accumulated from the date they become a waste using any of the methods stated in Env-Wm 1102.04(a)(2). LSI should provide a description of the selected method and necessary documentation to DES.

The August 11, 2005 inspection revealed that LSI generates contaminated cloth wipers from maintenance cleaning operations. According to Frank Roderick, Compliance Officer, the wipers are collected for laundering by an outside contractor (Alltex). Inspectors observed LSI's storage of contaminated wipers in Maintenance Room. At the time of the inspection, the collection container

in the Maintenance Room was open and was not marked with the words "Contaminated Wipers for Laundering." Inspectors advised Mr. Roderick that contaminated wipers, generated at the facility, are subject to the DES Environmental Fact Sheet #WMD-HW-6, "Contaminated Cloth Wipers for Laundering" (See enclosed). DES requests that LSI comply with the fact sheet by ensuring that containers of contaminated cloth wipers are properly marked and remain closed.

Also, the August 11, 2005 inspection revealed that LSI generates waste paints which contain silver. According to Mr. Roderick, the silver is sent off-site for precious metal recovery. Please be advised that the silver waste generated at the facility is subject to the Rules, specifically Env-Wm 808 – Recyclable Materials Utilized for Precious Metal Recovery. Env-Wm 808 is applicable to recyclable materials that are reclaimed to recover economically significant amounts of silver. Generators of recyclable materials are not subject to the full standards for generators under Chapter Env-Wm 500. The generator would, however, be required to notify DES of its activities and to ship the wastes via a New Hampshire registered transporter, using a uniform hazardous waste manifest, to a facility authorized to accept such wastes. In addition, these wastes may not be accumulated speculatively as described in Env-Wm 811. Per Env-Wm 808.05, recyclable materials regulated under Env-Wm 808 that are accumulated speculatively, as determined under Env-Wm 811, shall be regulated as hazardous wastes and shall be subject to the Rules.

DES believes the remaining portion of the cited deficiencies can be corrected and a report describing the corrective measures taken by LSI can be submitted within thirty (30) days of receipt of this letter. Supporting documentation that describes the measures taken to achieve compliance should be included with the report.

In the event compliance is not achieved within this period, DES may take further action against LSI including issuing an order requiring that the deficiencies be corrected, initiating an administrative fine proceeding, and/or referring the matter to the New Hampshire Department of Justice for imposition of civil penalties. In addition, DES personnel may re-inspect your facility at a later date to determine whether the facility has come into, and is maintaining, full compliance with the applicable rules. Fines may be pursued for any or all violations observed during this or subsequent inspections of the facility.

The written report as requested above should be addressed as follows:

Tammy Calligandes, Waste Management Specialist  
DES/WMD  
P.O. Box 95  
Concord, NH 03302-0095

Enclosed you will find a copy of the completed Hazardous Waste Generator Inspection Report which documents the compliance status of your facility at the time of the inspection. This report may also be of value to you for use in determining future compliance with the New Hampshire Hazardous Waste Rules.

The State of New Hampshire Hazardous Waste Rules, as well as much other useful information, can be obtained from DES's website at <http://www.des.state.nh.us/hwcs/>, or by contacting the Public Information Center at (603) 271-2975.

It is the goal of DES to promote the prevention of pollution at the source as the preferred option for meeting established environmental quality goals. We strive to ensure that pollution prevention options are considered first, followed by recycling, treatment and disposal. I am requesting that the DES's Pollution Prevention Coordinator, Stephanie D'Agostino, contact you to discuss possibilities for waste minimization or source reduction at your facility. In the meantime, if you have immediate questions about pollution prevention, please feel free to contact her at 271-6398.

As a service to New Hampshire's hazardous waste generators, we maintain a Hazardous Waste Assistance Hotline which is available for you to contact our knowledgeable staff of hazardous waste inspectors. Our hazardous waste staff is available to answer your questions concerning the New Hampshire Hazardous Waste Rules and the compliance issues which affect your hazardous waste management program. The technical assistance available through the Hotline includes fact sheets that pertain to the management and recycling of specific wastes, summary sheets of specific sections of the Hazardous Waste Rules, copies of EPA and New Hampshire hazardous waste policy or regulatory interpretation letters that may benefit your operation, and networks with other state or federal agencies to answer your questions on a national level. The Hotline is available Monday through Friday, 8:00 AM to 4:00 PM at (1-866) HAZ-WAST (in-state only) or (603) 271-2942.

Should you have any questions regarding this letter, please contact the lead inspector, Tammy Calligandes, or Tod Leedberg, RCRA Compliance Supervisor at 271-2942. Thank you for your cooperation.

Sincerely,

 **COPY for**

John J. Duclos, Administrator  
Hazardous Waste Compliance Bureau  
Waste Management Division

cc: DB/RCRA/LOD/Archives  
Anthony P. Giunta, P.G., Director, WMD  
Paul L. Heritzler, P.G., Esq., Administrator, WMD  
Gretchen Hamel, Administrator, DES Legal Unit  
Frank Roderick, Luminescent Systems, Inc., 4 Lucent Drive, Lebanon, NH

E-mail: JJD/SD

Enclosure: Hazardous Waste Generator Inspection Report  
Summary of Used Oil Regulations  
Fact Sheet WMD HW-6  
Notification Form